

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/008622 A1**

(51) International Patent Classification<sup>7</sup>: **G09G 3/32**

Property & Standards, Cross Oak Lane, Redhill, Surrey  
RH1 5HA (GB).

(21) International Application Number:  
PCT/IB2004/002291

(74) Agent: **WILLIAMSON, Paul, L.**; c/o Philips Intellectual  
Property & Standards, Cross Oak Lane, Redhill, Surrey  
RH1 5HA (GB).

(22) International Filing Date: 7 July 2004 (07.07.2004)

(25) Filing Language: English

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(26) Publication Language: English

(30) Priority Data:  
0316862.2 18 July 2003 (18.07.2003) GB

(71) Applicant (*for all designated States except US*): **KONIN-  
KLJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

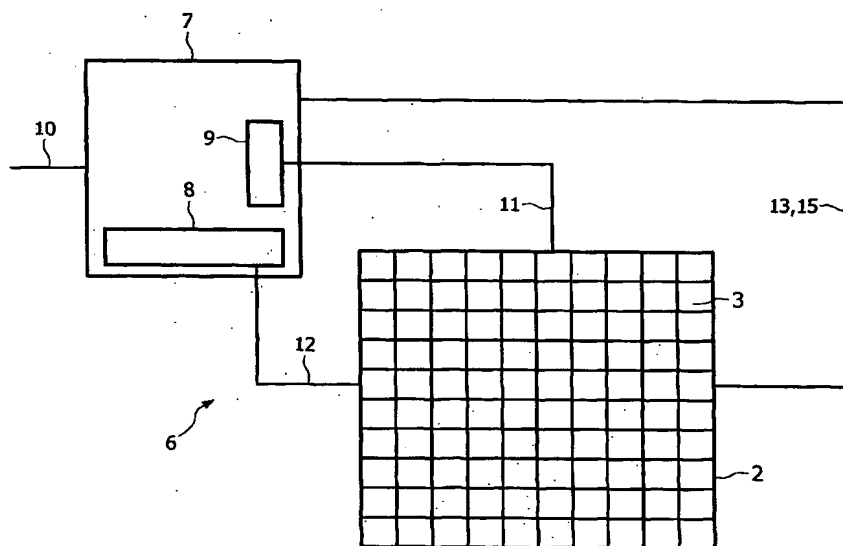
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **JOHNSON, Mark,  
T.** [GB/GB]; c/o Philips Intellectual Property & Stan-  
dards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).  
**FISEKOVIC, Nebojsa** [YU/NL]; c/o Philips Intellectual

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: **OLED DISPLAY DEVICE**



(57) Abstract: The invention relates to an active matrix display device comprising a display with a plurality of display pixels, each having a current driven emissive element, a data input for receiving an analogue data signal, at least one drive element connected to a power supply and arranged to drive the current emissive element in accordance with the data signal and selecting means arranged to provide, in response to a select signal, the data signal to the at least one drive element to generate an overall brightness level during a frame period in accordance with the data signal. The device is adapted to divide the frame period in at least a first sub-period during which the emissive element carries a first non-zero current and a second sub-period during which the emissive element carries a second non-zero current, the at least first and second non-zero current yielding the overall brightness level.



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations* AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA,

SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*